

Abstract

The present invention is directed to improved devices and methods for use in ultrasound guiding of percutaneous probes during medical procedures. The ultrasound devices of the present invention include an ultrasound transducer housing having a passage therethrough configured to accommodate a probe. The devices can be utilized to guide a probe through the probe guide in the passage of the transducer housing, and along a path extending from the ultrasound transducer housing to a target at a known angular relationship to the ultrasound transducer. In this manner, the path of the advancing probe and hence the location of the probe tip can be more clearly known in relation to a target imaged by the ultrasound device. In addition, the devices can include a sterile sleeve including a sterile probe guide such that the transducer housing itself, including the integral probe guide opening, can be separated from the patient by a sterile barrier. The devices can also include a clamp for clamping the probe in the probe guide. The devices can also include means and methods for imaging a virtual probe overlaying the sonogram formed by the ultrasound device such that a real time image of the probe approach to the target may be observed during and after probe placement.